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BARNES-THORNBURG-LLP

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 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

**PETITION TO ACCEPT UNAVOIDABLY DELAYED PAYMENT OF  
 MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))**

 Docket Number (Optional)  
 IRO-58123

 Mail to: Mail Stop Petition  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria VA 22313-1450  
 Fax: (571) 273-8300

 NOTE: If information or assistance is needed in completing this form, please contact Patents Information at  
 (571) 272-3282.
Patent Number: 6,223,937Application Number: 08/441,868Issue Date: May 1, 2001Filing Date: November 17, 1999

**CAUTION:** Maintenance fee (and surcharge, if any) payment must correctly identify: (1) the patent number (or reissue patent number, if a reissue) and (2) the application number of the actual U.S. application (or reissue application) leading to issuance of that patent to ensure the fee(s) is/are associated with the correct patent. 37 CFR 1.356(c) and (d).

Also complete the following information, if applicable:

The above-identified patent:

☐ is a reissue of original Patent No. \_\_\_\_\_ original issue date \_\_\_\_\_  
 original application number \_\_\_\_\_  
 original filing date \_\_\_\_\_

☐ resulted from the entry into the U.S. under 35 U.S.C. 371 of international application  
 \_\_\_\_\_ filed on \_\_\_\_\_

**CERTIFICATE OF MAILING OR TRANSMISSION (37 CFR 1.8(a))**

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is

(1) being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 OR

(2) transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

June 29, 2010

Date



Signature

Gerard T. Gallagher

Typed or printed name of person signing Certificate

[Page 1 of 4]

This collection of information is required by 37 CFR 1.378(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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PTO/SB/05 (03-09)

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## 1. SMALL ENTITY

☒ Patentee claims, or has previously claimed, small entity status. See 37 CFR 1.27

## 2. LOSS OF ENTITLEMENT TO SMALL ENTITY STATUS

☐ Patentee is no longer entitled to small entity status. See 37 CFR 1.27(g)

## 3. MAINTENANCE FEE (37 CFR 1.20(e)-(g))

The appropriate maintenance fee must be submitted with this petition, unless it was paid earlier.

NOT Small Entity			Small Entity		
Amount	Fee	(Code)	Amount	Fee	(Code)
<input type="checkbox"/> \$ _____	3 ½ yr fee	(1551)	<input checked="" type="checkbox"/> \$ 490	3 ½ yr fee	(2551)
<input type="checkbox"/> \$ _____	7 ½ yr fee	(1552)	<input checked="" type="checkbox"/> \$ 1240	7 ½ yr fee	(2552)
<input type="checkbox"/> \$ _____	11 ½ yr fee	(1553)	<input type="checkbox"/> \$ _____	11 ½ yr fee	(2553)

MAINTENANCE FEE BEING SUBMITTED \$ 1730

## 4. SURCHARGE

The surcharge required by 37 CFR 1.20(i)(1) of \$ 130 (Fee Code 1557) must be paid as a condition of accepting unavoidably delayed payment of the maintenance fee.

SURCHARGE FEE BEING SUBMITTED \$ 130

## 5. MANNER OF PAYMENT

- ☐ Enclosed is a check for the sum of \$ \_\_\_\_\_
- ☒ Please charge Deposit Account No. 100435 the sum of \$ 2560\*\*
- ☐ Payment by credit card. Form PTO-2038 is attached.

## 6. AUTHORIZATION TO CHARGE ANY FEE DEFICIENCY

- ☒ The Director is hereby authorized to charge any maintenance fee, surcharge or petition fee deficiency to Deposit Account No. 100435

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## 7. OVERPAYMENT

As to any overpayment made, please

☒ Credit to Deposit Account No. 100435

OR

☐ Send refund check

## WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

## 8. SHOWING

The enclosed statement will show that the delay in timely payment of the maintenance fee was unavoidable since reasonable care was taken to ensure that the maintenance fee would be paid timely and that this petition is being filed promptly after the patentee was notified of, or otherwise became aware of, the expiration of the patent. The statement must enumerate the steps taken to ensure timely payment of the maintenance fee, the date and the manner in which the patentee became aware of the expiration of the patent, and the steps taken to file the petition promptly.

## 9. PETITIONER(S) REQUESTS THAT THE DELAYED PAYMENT OF THE MAINTENANCE FEE BE ACCEPTED AND THE PATENT REINSTATED.

(COUSIN FOR PETITIONER)  
Signature(s) of Petitioner(s) 6/29/10  
Date  
GERARD T. CALVERT  
Typed or printed name(s)  
BARNES & THORNBURG  
Address  
600 1ST SOURCE BANK CENTER  
Address  
100 NORTH KIEFER  
SOUTH BEND, IN 46601  
Registration Number, if applicable  
39,679  
(579) 237-1156  
Telephone Number

## ENCLOSURES:

- ☒ Maintenance Fee Payment  
☒ Statement why maintenance fee was not paid timely  
☒ Surcharge under 37 CFR 1.207(1) (fee for filing the maintenance fee petition)  
☒ Other:

1) Petition to Accept Unavoidably Delayed Payment of Maintenance Fee and for Reinstatement Under 37 CFR Section 1.37(b), with supporting Exhibits A-F;  
 2) \*\*Fee for Petition

(Page 3 of 4)

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PTO/SE/68 (03-09)

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U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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37 CFR 1.378(d) states: "Any petition under this section must be signed by an attorney or agent registered to practice before the Patent and Trademark Office, or by the patentee, the assignee, or other party in interest."

  
\_\_\_\_\_  
Signature

Gerard T. Gallagher

Type or printed name

June 29, 2010

Date

39,679

Registration Number, if applicable

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OFFICE OF PETITIONS**STATEMENT**

(In the space below, please provide the showing of unavoidable delay recited in paragraph 8 above.)

See Petition to Accept Unavoidably Delayed Payment of Maintenance Fee and for Reinstatement Under 37 CFR Section 1.378(b), with supporting Exhibits A-F

(Please attach additional sheets if additional space is needed)

[Page 4 of 4]

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JUN 29 2010

OFFICE OF PETITIONS

Attorney Docket. No. 46774-56123

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No. : 6,223,937  
Issued : May 1, 2001  
Application No. : 09/441,869  
Filed : November 17, 1999  
For : PORTABLE DISPENSING BOTTLE WITH DISSOLVABLE WAX  
PLUG AT INLET

**PETITION TO ACCEPT UNAVOIDABLY DELAYED  
PAYMENT OF MAINTENANCE FEE  
AND FOR REINSTATEMENT UNDER 37 C.F.R. § 1.378(b)**

Mail Stop Petition  
Commissioner for Patents P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is a Petition by Iron Out, Inc. ("Petitioner") under 37 C.F.R. § 1.378(b) to accept delayed payment of the first and second maintenance fees due for U.S. Patent No. 6,223,937 ("the '937 Patent") and reinstatement of the '937 Patent.

The '937 Patent issued May 1, 2001. The first maintenance fee could have been paid without surcharge as late as November 1, 2004 and could have been paid with a surcharge as late as May 1, 2005. The second maintenance fee could have been paid without surcharge as late as November 1, 2008 and could have been paid with a surcharge as late as May 1, 2009.

A Petition under 37 C.F.R. § 1.378(b) to accept an unavoidably delayed payment of a maintenance fee must include:

- (A) the required maintenance fee set forth in 37 C.F.R. § 1.20 (f);
- (B) the surcharge set forth in 37 C.F.R. § 1.20(i)(1); and
- (C) a showing that the delay was unavoidable since reasonable care was taken to ensure that the maintenance fee would be paid timely and that the petition was filed promptly after the patentee was notified of, or otherwise became aware of, the expiration of the patent. The showing

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JUN 29 2010

U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)

must enumerate the steps taken to ensure timely payment of the maintenance fee, the date and the manner in which patentee became aware of the expiration of the patent, and the steps taken to file the petition promptly.

### **I. Authorization to Charge Deposit Account**

The United States Patent and Trademark Office ("USPTO") is authorized to charge Deposit Account No. 100435 (Docket Number 46774-56123) (1) the petition fee of \$700, (2) the first maintenance fee and surcharge totaling \$555 for a small entity and (3) any other fees required to accept or grant this Petition. The USPTO is likewise authorized to charge the deposit account the second maintenance fee and surcharge totaling \$1,305 upon granting of this Petition.

### **II. Showing of Unavoidable Delay**

A showing that the delay was unavoidable since reasonable care was taken to ensure that the maintenance fee would be paid timely and that the Petition was filed promptly after the patentee was notified of, or otherwise became aware of, the expiration of the patent is set forth below and in the attached declarations in support of this Petition.

#### **A. The Legal Standard**

The evaluation of a petition to reinstate a patent under the "unavoidable delay" standard of 35 U.S.C. § 41(c) and 37 C.F.R. § 1.378(b)(3) requires a showing of the steps taken to ensure the timely payment of the maintenance fees at issue for the patent. *See Ray v. Lehman*, 55 F.3d 606, 34 USPQ2d 1786 (Fed. Cir. 1995). In determining whether the delayed payment of a maintenance fee was unavoidable, one looks to whether due care of a reasonably prudent person was exercised. *Id.* at 609. The determination of whether the delay is unavoidable is made on a "case-by-case basis, taking all the facts and circumstances into account." *Smith v. Mossinghoff*, 671 F.2d 533, 538, 213 USPQ 977, 982 (D.C. Cir. 1982).

In *California Medical Products Inc. v. Tecnol Medical Products Inc.*, 921 F. Supp. 1219 (D. Del. 1995), a patent attorney's secretary, whose duties included docketing, mistakenly docketed the reissued patent by its issue date, and not by the issue date of the

U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)

underlying parent patent, causing an incorrect due date calculation to be entered both on the firm's docket and in the corresponding letter sent by the attorney to the client. *Id.* at 1257-1258. The error was thereafter carried over through the years from a computer docketing system to an index card docket system, all the time relying upon the erroneous data entry relating to the reissued patent. The client first learned of the error in its attorney's docket system when the USPTO returned a maintenance fee to the attorney, which was tendered based on the erroneous docket information more than two years after the due date for the underlying patent. *Id.* at 1258. Once the attorney learned of the lapse, reinstatement was sought and granted by the USPTO. *Id.* The court, on review of the USPTO's determination, concluded that the failure to pay the maintenance fee was unavoidable and that the reissued patent was properly reinstated by the USPTO. *Id.* at 1259-1260. The court in California Medical specifically noted that:

[T]he Court finds that this subsequent reliance on the docketing system was reasonable. The purpose of a docketing system is to be a readily accessible source of important information. It is not reasonable to expect a docket clerk, or a lawyer, to question and recalculate the information on a docket sheet every time the docket sheet is used, for that would completely negate its effectiveness. *Id.* at 1260.

The reasonably prudent person standard has been described as "applicable to ordinary human affairs" and requires a showing by the petitioner of "no more or greater care than is generally used by prudent and careful men" in relation to their most important business. See In re Mattulath, 38 App. D.C. at 514, (D.C. Cir. 1912).

The standard permits a prudent and careful person

to rely upon the ordinary and trustworthy agencies of mail and telegraph, worthy and reliable employees, and such other means and instrumentalities as are usually employed in such important business. If unexpectedly, or through the unforeseen fault or imperfection of these agencies and instrumentalities, there occurs a failure, it may properly be said to be unavoidable, all the other conditions of good faith and promptness in its rectification being present.

*Id.* at 514-515 (quoting Ex parte Pratt, 39 Off. Gaz. 1549, 1887 Dec. Comm'r Pat. 31, 32-33 (Comm'r Pat. 1887).

U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)

As has been recognized both by federal courts and by the USPTO in the MPEP at §§711.03(c) and 2590, the implementation of a routine and reliable docketing system to track upcoming maintenance fee obligations is an important factor in considering the totality of circumstances regarding "unavoidable delay." See also, In re Katrapat, 6 USPQ2d 1863 (Comm'r Pat. 1988); Ex Parte Henrich, 1913 Dec. Comm'r Pat 139 (Comm'r Pat 1913); California Medical, *supra*.

Pursuant to MPEP §711.03(c)(11), a delay resulting from a clerical error (such as a docketing error) can provide the basis for a showing of "unavoidable" delay if:

- (i) the error was the cause of the delay at issue;
- (ii) there was in place a business routine for performing the clerical function that could reasonably be relied upon to avoid errors in its performance; and
- (iii) the employee was sufficiently trained and experienced with regard to the function and routine for its performance that reliance upon such employee represented the exercise of due care.

**B. Factual Basis for Petition**

**1. Acquisition of the '937 Patent**

Petitioner, Iron Out, Inc., acquired the '937 Patent by assignment dated October 24, 2002. The assignment is recorded at Reel 013542, Frame 0858 of the Patent Office records. The '937 Patent was one of various assets acquired by Iron Out from the patentee and a related company. Petitioner was represented in the transaction by the law firm of Baker & Daniels LLP. (Declaration of Joel E. Harter, ¶3; Exhibit A) Attached as Exhibit B is a docket sheet for the '937 Patent provided to Petitioner by Baker & Daniels indicating the "Date Created" for the record was November 7, 2002, shortly after Petitioner's acquisition of the '937 Patent. The file number is listed as IRO0102.

On or about November 9, 2002, Joel E. Harter, President of Petitioner, spoke with Thomas A. Adams, then an attorney with Baker & Daniels<sup>1</sup>, about potentially enforcing the '937 Patent against a third party. On or about November 25, 2002, Mr. Adams wrote to Mr. Harter and advised him that Baker & Daniels had "proceeded with the recordation of

U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)

the Assignment" with respect to the '937 Patent. Mr. Adams also enclosed a Power of Attorney so that Baker & Daniels could "represent Iron Out, Inc. before the United States Patent and Trademark Office in any upcoming deadlines, i.e., payment of the maintenance fees." A copy of Mr. Adams correspondence is attached as Exhibit C. Mr. Harter returned the executed Power of Attorney to Baker & Daniels. (Harter Declaration, ¶4)<sup>2</sup>

On December 18, 2002, subsequent to the November 9, conversation referred to above and after sending Mr. Harter the Power of Attorney, Mr. Adams prepared a memorandum to file documenting the November 9 conversation and Mr. Harter's decision not to pursue the potential infringement matter. A copy of the memo to file is attached as Exhibit D with the name of the potential infringer redacted. The memo in its entirety states: "Per my discussion with Joel Harter on November 9, 2002, Iron Out will not pursue the above-referenced patent matter re [redacted name of potential infringer]." The file number on the memo is the same as the docketing entry for the '937 Patent shown in Exhibit B. Exhibit B indicates that the "Last Update" for the '937 Patent docket entry was December 26, 2002, eight days after the date of Mr. Adams' memo. As of that date, the "Application Status" is indicated as "Abandoned." The "User ID" is listed on the docket sheet as "pmpotter." As set forth in Mr. Harter's declaration at paragraph, 5, "pmpotter" is believed to be Patrice Michelle Potter, a paralegal in the intellectual property department at Baker & Daniels. A copy of Ms. Potter's biography printed from Baker & Daniels' website at [www.bakercd.com](http://www.bakercd.com) is attached hereto as Exhibit E.

## **2. Baker & Daniels' Representation of Iron Out and Related Entities**

Baker & Daniels represented Mr. Harter personally, Petitioner and various other entities owned at least in part by Mr. Harter and/or related to Petitioner ("the Harter Entities") since at least 1990. Baker & Daniels represented the Harter Entities in numerous matters, including patent and trademark matters. (Harter Declaration, ¶6) During that time

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<sup>1</sup> Mr. Adams is now an attorney with Proctor & Gamble in Cincinnati.

<sup>2</sup> Baker & Daniels has advised Petitioner that it did not find in its copy of the file for the '937 Patent a copy of the power of attorney that Petitioner had signed and returned to the firm and that Baker & Daniels' files do not disclose that Petitioner signed and returned the power of attorney to Baker & Daniels.

U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)

period, Baker & Daniels' practice was to send correspondence, either in the form of letters or e-mails, or otherwise advise Mr. Harter of deadlines relating to patents and trademarks for the Harter Entities, including Petitioner. (Harter Declaration, ¶7) If no response was received, Baker & Daniels sent reminder correspondence. (Harter Declaration, ¶7) Baker & Daniels attorneys also held periodic status conferences with Mr. Harter to review the status of patent and trademark matters for the Harter Entities (including Petitioner) and seek instructions with respect thereto. (Harter Declaration, ¶8) Mr. Harter would ultimately provide instructions to Baker & Daniels, who would then take the action requested. (Harter Declaration, ¶9) Baker & Daniels ceased representation of the Harter Entities in patent and trademark matters on or about January 24, 2009. (Harter Declaration, ¶9)

### 3. Steps Taken to Ensure Timely Payment of the Maintenance Fee

To ensure timely payment of the maintenance fees, Petitioner retained Baker & Daniels, a large, sophisticated and experienced law firm to represent it in intellectual property matters. (Harter Declaration, ¶10) Petitioner relied on Baker & Daniels and its docketing and notification system which had proven reliable in Petitioner's past dealings with Baker & Daniels. (Harter Declaration, ¶11) Indeed, Baker & Daniels had previously notified Petitioner of numerous Patent and Trademark Office deadlines, sought its instructions, provided reminders when instructions were not received and took timely action to preserve Petitioner's rights at the Patent and Trademark Office and those of the Harter Entities. (Harter Declaration, ¶¶7-9, 11)

Unfortunately, Exhibit A indicates that the "Application Status" for the '937 Patent was listed as "Abandoned" in the Baker & Daniels docket system. Mr. Harter never instructed anyone at Baker & Daniels not to pay the maintenance fees for this patent or to allow the patent to expire or to otherwise abandon any rights in the '937 Patent. (Harter Declaration, ¶12) Attached as Exhibit F is a complete copy of file number IRO0102, which was transferred to the present counsel by Baker & Daniels. There are no instructions of any kind in the file to abandon the '937 Patent or to refrain from paying maintenance fees for the '937 Patent. Mr. Adams' memo referred to above was not intended as an

U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)

instruction to allow the '937 Patent to become abandoned and Mr. Adams has no recollection of ever receiving such instructions. (Adams Declaration, ¶3).

**C. Argument**

**1. A docketing error was the cause of the delay at issue**

Based on the foregoing facts, Petitioner submits that it is clear that a docketing error was the cause of the delay at issue. As evidenced by Mr. Harter's Declaration, Petitioner never instructed Baker & Daniels not to pay the maintenance fees in question or to otherwise abandon any of Petitioner's rights in the '937 Patent. Nor does Baker & Daniels' file for this patent contain any instructions not to pay the maintenance fee for this patent or to otherwise abandon Petitioner's rights in the '937 Patent. The printout from the Baker & Daniels' docket system indicates that the status as "abandoned." With the file erroneously marked to be abandoned, there would be no reason for Baker & Daniels to remind Petitioner of the upcoming deadlines for the first or second maintenance fees. In fact, Baker & Daniels did not notify Petitioner of the maintenance fee deadlines or seek instructions with respect to their payment. (Harter Declaration, ¶13)

**2. There was in place a business routine for performing the clerical function that could reasonably be relied upon to avoid errors in its performance**

With respect to payment of the fees in question, Petitioner relied on (a) Baker & Daniels, a large, sophisticated law firm with an established intellectual property practice, (b) Baker & Daniels' docket system, (c) Baker & Daniels' past successful notification to Petitioner and the Harter Entities of numerous Patent and Trademark Office due dates, including reminders when instructions were not received, (d) periodic status calls with Baker & Daniels attorneys during which the status of intellectual property matters for Petitioner and the Harter Entities were reviewed and instructions were sought with respect to approaching deadlines and (e) Baker & Daniels' past successful execution of instructions from Petitioner and the Harter Entities with respect to patent and trademark matters. (Harter Declaration, ¶11) This system resulted in timely action being taken at the Patent and Trademark Office on behalf of the Petitioner and the Harter Entities by Baker & Daniels on all prior occasions.

U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)

(Harter Declaration, ¶11) Thus, it was reasonable for Petitioner to rely on Baker & Daniels and its docket system to ensure that the maintenance fees were timely paid for the '937 Patent and that errors in performance would be avoided.

**3. The employee was sufficiently trained and experienced with regard to the function and routine for its performance that reliance upon such employee represented the exercise of due care**

As shown in the attached biography of Ms. Potter from the Baker & Daniels website, she is an experienced intellectual property paralegal "responsible for assisting attorneys in the filing, prosecution and maintenance of patents." Ms. Potter's biography further indicates that she "is also responsible for docketing and is proficient in the CPI docket system." Thus, it was entirely reasonable for Petitioner to rely on Baker & Daniels and its personnel as described above.

**III. Steps Taken to Promptly File This Petition**

During a phone call on January 26, 2010, between the undersigned counsel, Mr. Harter and one of Petitioner's independent accountants to discuss various matters, Mr. Harter mentioned a patent with which the undersigned counsel was not familiar. Upon investigation, the undersigned counsel determined that the patent in question was the '937 Patent. Counsel advised Mr. Harter that the '937 Patent had expired due to failure to pay the maintenance fees. Mr. Harter advised the undersigned counsel that it was not Petitioner's intention to allow the '937 Patent to expire and that Petitioner never provided instructions not to pay the maintenance fees for the '937 Patent. The undersigned counsel then contacted Baker & Daniels to investigate the situation and obtain Baker & Daniels' file relating to the '937 Patent. Review of the file confirmed that there were no instructions to allow the '937 Patent to expire for failure to pay the maintenance fees or for any other reason. Counsel then investigated the options available for reinstating the '937 Patent and advised Petitioner accordingly. Mr. Harter then consulted with Baker & Daniels regarding the expiration of the '937 Patent and potential representation by Baker & Daniels of Petitioner or other arrangements for petitioning to revive the '937 Patent. Ultimately, present counsel was retained to seek reinstatement of the '937 Patent. As part of the

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U.S. Patent No. 6,223,937

Attorney Docket No. (46774-56123)


process, the undersigned counsel conferred with various Baker & Daniels personnel. In the course of the undersigned counsel's investigation and work on the present petition, counsel discovered that Baker & Daniels might be in possession of additional files relevant to the present petition. Counsel so advised Petitioner, who instructed Baker & Daniels to transfer the files in question to the undersigned counsel. Baker & Daniels ultimately transferred 18 bankers boxes of files to the undersigned counsel. Counsel thoroughly reviewed the files for relevant information. Petitioner also sought declarations from Baker & Daniels in support of this petition.<sup>3</sup> Counsel conferred with Mr. Adams with respect to the '937 Patent and the memo referred to above. Counsel worked with Mr. Adams to prepare the attached declaration. Petitioner and counsel consulted regularly throughout the process of preparing the present petition, which was promptly filed.

#### IV. Conclusion

A proper showing under 37 C.F.R. §1.378(b) has been made. The delay in payment of the maintenance fees for the '937 Patent was unavoidable. Therefore, it is respectfully requested that the unavoidable delay of the payment of the maintenance fees for the '937 Patent be accepted and that this patent be reinstated.

It is respectfully requested that any communications regarding this petition be directed to the undersigned.

Respectfully submitted,

  
Gerard T. Gallagher  
Reg. No. 39,679Date: 6/29/10

<sup>3</sup> Baker & Daniels declined to sign the declarations rendered by Petitioner.

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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OFFICE OF PETITIONS

In re U.S. Patent No. 6,223,937

Issued: May 1, 2001

Title: Portable Dispensing Bottle with Dissolvable  
Wax Plug at InletCommissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450DECLARATION OF JOEL E. HARTER

Sir:

I, Joel E. Harter, hereby declare as follows:

1. I am over 18 years of age and have personal knowledge of the facts and events discussed herein.
2. I am the President of Iron Out, Inc. ("Petitioner"). I have been the president of Petitioner at all times relevant to the matters discussed herein.
3. Petitioner acquired the '937 Patent as part of a larger transaction in which various assets were purchased from the patentee and a related company. Petitioner was represented in the transaction by the law firm of Baker & Daniels LLP.
4. Attached as Exhibit A1 is a copy of the Power of Attorney that I executed and returned to Baker & Daniels.
5. Based on Baker & Daniels prior representation of Petitioner and my work with the firm, I believe that the "pmpotter" referred to on Exhibit B to the Petition is Patrice Michelle Potter, a paralegal in the intellectual property department at Baker & Daniels.
6. Baker & Daniels has represented me personally, Petitioner and various other entities owned at least in part by me and/or related to Petitioner ("the Harter Entities") since

-1-

EXHIBIT A

at least 1990. Baker & Daniels has represented the Harter Entities in numerous matters, including patent and trademark matters. Baker & Daniels ceased representation of the Harter Entities in patent and trademark matters on or about January 24, 2009.

7. During the time that Baker & Daniels represented Petitioner and the Harter Entities in patent and trademark matters, Baker & Daniels' practice was to send correspondence, either in the form of letters or e-mails, to me or to otherwise advise me of deadlines relating to patents and trademarks for the Harter Entities, including Petitioner. Baker & Daniels sent reminder correspondence to me if I did not provide instructions as requested.

8. During the time that Baker & Daniels represented Petitioner and the Harter Entities in patent and trademark matters, Baker & Daniels attorneys also held periodic status conferences with me to review the status of patent and trademark matters for the Harter Entities (including Petitioner) and to seek instructions with respect thereto.

9. I would provide instructions with respect to patent and trademark matters for Petitioner and the Harter Entities to Baker & Daniels, who would then take the action requested.

10. To ensure timely payment of the maintenance fees, Petitioner retained Baker & Daniels to represent it in intellectual property matters.

11. With respect to all Patent and Trademark Office deadlines, including the payment of maintenance fees, Petitioner relied on (a) Baker & Daniels, (b) Baker & Daniels' docket system, (c) Baker & Daniels' past successful notification to Petitioner and the Harter Entities of numerous Patent and Trademark Office due dates, including reminders when instructions were not received, (d) periodic status calls with Baker & Daniels attorneys during which the status of intellectual property matters for Petitioner and the Harter Entities were reviewed and instructions were sought with respect to approaching deadlines and (e) Baker & Daniels' past successful execution of instructions from Petitioner and the Harter Entities with respect to patent and trademark matters. This system resulted in timely action being taken at

the Patent and Trademark Office on behalf of the Petitioner and the Harter Entities by Baker & Daniels in all instances, with the exception of paying the maintenance fees for the '937 Patent.

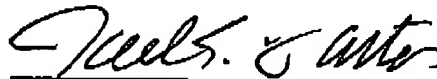
12. Neither I nor anyone else affiliated with Petitioner instructed anyone at Baker & Daniels not to pay the maintenance fees for the '937 Patent or to allow the patent to expire or to otherwise abandon any rights in the '937 Patent.

13. Baker & Daniels did not notify me or anyone else affiliated with Petitioner of the maintenance fee deadlines for the '937 Patent or seek instructions with respect to their payment.

14. The undersigned declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this Declaration, the Petition and/or the '937 Patent.

Date

6/28/2015



Joel E. Harter  
President  
Iron Out, Inc.

SBDS01 JGALLAGHER 331224v1

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JUL 02 2010

JUN 29 2010

OFFICE OF PETITIONS

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

## POWER OF ATTORNEY

Docket No.

IRO0102

Name of Applicant: Iron Out, Inc.  
Address of Applicant: 1515 Dividend Road  
Fort Wayne, Indiana 46808-1126

Title: PORTABLE DISPENSING BOTTLE WITH DISSOLVABLE  
WAX PLUG AT INLET

Serial No., if Any: 09/441,869  
Filed: November 17, 1999

TO THE ASSISTANT COMMISSIONER FOR PATENTS

The Assistant Commissioner for Patents  
Washington, D.C. 20231

Honorable Sir:  
I hereby appoint:

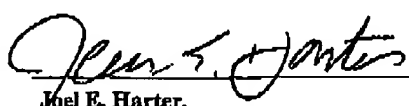
John F. Hoffman, Regis. No. 26,280  
Anthony Niewyk, Regis. No. 26,280  
Michael S. Gzybowski, Regis. No. 32,816  
Brian C. Pauls, Regis. No. 40,122  
Michael D. Smith, Regis. No. 40,181  
Michel D. Schwartz, Regis. No. 44,326  
Adam F. Cox, Regis. No. 46,644  
Thomas A. Adams, Regis. No. 48,230  
Abigail M. Butler, Regis. No. 48,238

as principal attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Please direct all future correspondence to:

Thomas A. Adams  
BAKER & DANIELS  
111 East Wayne Street, Suite 800  
Fort Wayne, Indiana 46802

By:

  
Joel E. Harter,  
President, Iron Out, Inc.

TX: (260) 424-8000  
FAX: (260) 460-1700

Dated: December , 2002

**Country Application**

Friday, February 05, 2010

Page: 1

<b>Our File Number:</b> IRO0102	<b>Country:</b> US	<b>SubCase:</b>	<b>Resp. Office:</b> FW
<b>Old File Number:</b> IRO0102	United States of America		
<b>Client:</b> Iron Out, Inc.	<b>File Audited:</b> <input type="checkbox"/>		
<b>Case Type:</b> ORD	<b>Application Status:</b> Abandoned		
<b>Application Number:</b> 09/441,869	<b>Filing Date:</b> 17-Nov-1999		
<b>Publication Number:</b>	<b>Publication Date:</b>		
<b>Patent Number:</b> 6,223,937	<b>Issue Date:</b> 01-May-2001		
<b>Parent/PCT Number:</b>	<b>Parent/PCT Date :</b>		
<b>Parent Issue Number:</b>	<b>Parent Issue Date :</b>		
<b>Tax Schedule:</b> LE	<b>Expiration Date:</b> 17-Nov-2019		
<b>Confirmation #:</b>	<b>Patent Term Adjustment:</b> 0		
<b>Agent:</b>	<b>Agent Reference #:</b>		

**Family Reference:**

<b>Our File (US):</b> IRO0102	<b>C/M Number:</b> 85968/102	<b>Bible Number:</b>
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**AppTitle:** PORTABLE DISPENSING BOTTLE WITH DISSOLVABLE WAX PLUG AT INLET**Inventors:**

Schmidt, Kevin

**User ID:** pmpotter**Date Created:** 07-Nov-2002**Last Update:** 26-Dec-2002

EXHIBIT B

**BAKER & DANIELS**  
EST. 1863

**JUN 29 2010**

111 E. WAYNE STREET, SUITE 800 • FORT WAYNE, INDIANA 46802 • (219) 424-8000 • FAX (219) 460-1700 • www.bakerdaniels.com

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FORT WAYNE  
INDIANAPOLIS  
SOUTH BEND  
ELKHART  
WASHINGTON, D.C.  
QINGDAO, P.R. CHINA

November 25, 2002

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JUL 02 2010  
OFFICE OF PETITIONS

Mr. Joel E. Harter, President  
Iron Out, Inc.  
1515 Dividend Road  
Fort Wayne, IN 46808-1126

RE: U.S. Patent No. 6,223,937  
PORTABLE DISPENSING BOTTLE WITH  
DISSOLVABLE WAX PLUG AT INLET  
Our Ref.: IRO0102

Dear Joel:

We have proceeded with the recordation of the Assignment in the above-identified patent. Enclosed please find a Power of Attorney which will enable us to represent Iron Out, Inc. before the United States Patent and Trademark Office in any upcoming deadlines, i.e., payment of the maintenance fees.

Please sign the Power of Attorney where indicated and return the same to me.

Should you have any questions, please call.

Very truly yours,

Thomas A. Adams

TAA/pmp

Encl.: Power of Attorney

c: T.J. Haffner, Esq.

EXHIBIT C

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**POWER OF ATTORNEY**

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Docket No.  
IRO0102JUN 29 2010  
OFFICE OF PETITIONS

Name of Applicant: **Iron Out, Inc.**  
Address of Applicant: **1515 Dividend Road**  
**Fort Wayne, Indiana 46808-1126**

Title: **PORTABLE DISPENSING BOTTLE WITH DISSOLVABLE**  
**WAX PLUG AT INLET**

Serial No., if Any: **09/441,869**  
Filed: **November 17, 1999**

TO THE ASSISTANT COMMISSIONER FOR PATENTS

The Assistant Commissioner for Patents  
Washington, D.C. 20231

Honorable Sir:  
I hereby appoint

**John F. Hoffman, Regis. No. 26,280**  
**Anthony Niewyk, Regis. No. 26,280**  
**Michael S. Czybowski, Regis. No. 32,816**  
**Brian C. Pauls, Regis. No. 40,122**  
**Michael D. Smith, Regis. No. 40,181**  
**Michel D. Schwartz, Regis. No. 44,326**  
**Adam F. Cox, Regis. No. 46,644**  
**Thomas A. Adams, Regis. No. 48,230**  
**Abigail M. Butler, Regis. No. 48,238**

as principal attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Please direct all future correspondence to:

By: \_\_\_\_\_

**Thomas A. Adams**  
**BAKER & DANIELS**  
**111 East Wayne Street, Suite 800**  
**Fort Wayne, Indiana 46802**

**Joel E. Harter,**  
**President, Iron Out, Inc.**

**TX: (260) 424-8000**  
**FAX: (260) 460-1700**

Dated: December, 2002

MEMO

TO: File  
FROM: Tom Adams  
RE: IRO0102  
DATE: December 18, 2002

Per my discussion with Joel Harter on November 9, 2002, Iron Out will not pursue the above-referenced patent matter re Reckitt Benkeiser.

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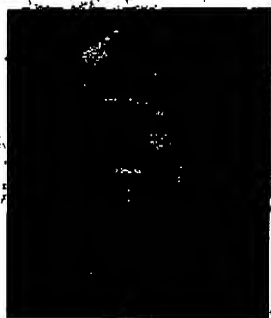
EXHIBIT D

FWIMAN1 268049v1

## BAKER &amp; DANIELS

## Professionals

## Featured Professional

**Patrice Michele Potter | Paralegal**

mickie.potter@bakerd.com

**Professional Experience**

Mickie Potter has been an Intellectual Property paralegal for 11 years. She concentrates her practice mainly in the area of patents. She is responsible for assisting attorneys in the filing, prosecution and maintenance of patents. She also conducts various searches in the area of US and foreign patents using Dialog, the European Patent Office Database and others. Mickie is also responsible for docketing and is proficient in the CPI docket system.

**Professional Associations**

- Member, Michiana Paralegal Association
- Member, National Federation of Paralegal Associations

**Presentations**

- U.S. Patent and Trademark Office Rule Changes, January, 2001

**Contact Information**

11 East Wayne Street  
Suite 800

Fort Wayne, Indiana 46802

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☒ E-mail

☒ Download V-Card

**Practices****Languages**

EXHIBIT E

IRON OUT  
6,223,937

IRON OUT  
Schmidt  
85968/102

EXHIBIT F

MEMO

TO: File  
FROM: Tom Adams  
RE: IRO0102  
DATE: December 18, 2002

Per my discussion with Joel Harter on November 9, 2002, Iron Out will not pursue the above-referenced patent matter re Reckitt Benkeiser.

**BAKER & DANIELS**  
EST. 1863

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**THOMAS A. ADAMS**  
DIRECT (219) 460-1713  
e-mail: taadams@bakard.com

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**JUL 02 2010**

FORT WAYNE  
INDIANAPOLIS  
SOUTH BEND  
ELKHART  
WASHINGTON, D.C.  
QINGDAO, P.R. CHINA

November 25, 2002

**OFFICE OF PETITIONS**

Mr. Joel E. Harter, President  
Iron Out, Inc.  
1515 Dividend Road  
Fort Wayne, IN 46808-1126

RE: U.S. Patent No. 6,223,937  
PORTABLE DISPENSING BOTTLE WITH  
DISSOLVABLE WAX PLUG AT INLET  
Our Ref.: IRO0102

Dear Joel:

We have proceeded with the recordation of the Assignment in the above-identified patent. Enclosed please find a Power of Attorney which will enable us to represent Iron Out, Inc. before the United States Patent and Trademark Office in any upcoming deadlines, i.e., payment of the maintenance fees.

Please sign the Power of Attorney where indicated and return the same to me.

Should you have any questions, please call.

Very truly yours,

Thomas A. Adams

TAA/pmp

Encl.: Power of Attorney

c: T.J. Haffner, Esq.

JUN 29 2010

027/040

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**POWER OF ATTORNEY**

Name of Applicant: **Iron Out, Inc.**  
Address of Applicant: **1515 Dividend Road**  
**Fort Wayne, Indiana 46808-1126**

**RECEIVED**  
**JUL 02 2010**  
**OFFICE OF PETITIONS**

Docket No.  
**IRO0102**

Title: **PORTABLE DISPENSING BOTTLE WITH DISSOLVABLE**  
**WAX PLUG AT INLET**  
Serial No., if Any: **09/441,869**  
Filed: **November 17, 1999**

TO THE ASSISTANT COMMISSIONER FOR PATENTS

The Assistant Commissioner for Patents  
Washington, D.C. 20231

Honorable Sir:  
I hereby appoint:

**John F. Hoffman, Regis. No. 26,280**  
**Anthony Niewyk, Regis. No. 26,280**  
**Michael S. Gzybowski, Regis. No. 32,816**  
**Brian C. Pauls, Regis. No. 40,122**  
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**Thomas A. Adams, Regis. No. 48,230**  
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as principal attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Please direct all future correspondence to:

By: \_\_\_\_\_

**Thomas A. Adams**  
**BAKER & DANIELS**  
**111 East Wayne Street, Suite 800**  
**Fort Wayne, Indiana 46802**

**Joel E. Harter,**  
**President, Iron Out, Inc.**

**TX: (260) 424-8000**  
**FAX: (260) 460-1700**

Dated: December, 2002



US006223937B1

(12) **United States Patent**  
Schmidt

(10) Patent No.: **US 6,223,937 B1**  
(45) Date of Patent: **May 1, 2001**

(54) **PORTABLE DISPENSING BOTTLE WITH DISSOLVABLE WAX PLUG AT INLET**

(76) Inventor: **Kevln Schmidt, 511 Wyckoff Ave., Wyckoff, NJ (US) 07481**

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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5,855,287 1/1999 Burns .

\* cited by examiner

(21) Appl. No.: **09/441,869**

(22) Filed: **Nov. 17, 1999**

(51) Int. Cl.<sup>7</sup> ..... **B65D 41/00**

(52) U.S. Cl. .... **222/54; 215/363; 215/364**

(58) Field of Search ..... **222/54; 215/355, 215/363, 364**

(56) **References Cited**

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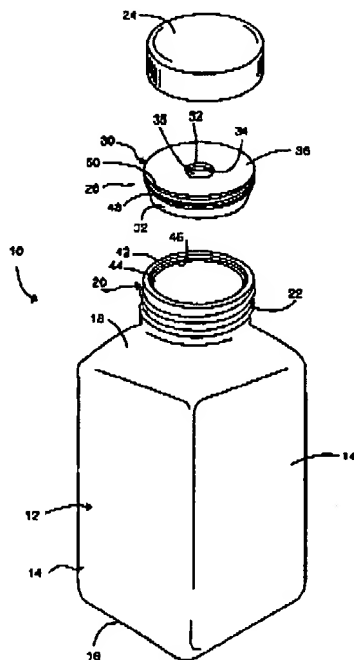
Primary Examiner—J. Casimer Jacyna

(74) Attorney, Agent, or Firm—Richard M. Goldberg

(57) **ABSTRACT**

A dispensing bottle includes a hollow main body; a neck having an opening in open communication with an interior of the main body and an inner facing surface provided with a lip; a red paraffin wax plug made of a wax material that melts at a predetermined temperature and has an outwardly facing peripheral surface with a groove; a retaining plug within the neck for holding the wax plug within the neck of the bottle, the retaining plug formed by an annular member having an outer facing peripheral surface formed with a groove for mating with the lip in the neck, and an inner facing peripheral surface defining a center opening in which the wax plug is held and having an inwardly extending lip that engages within the groove in the wax plug; and a removable closure cap in covering relation to the opening.

**8 Claims, 3 Drawing Sheets**



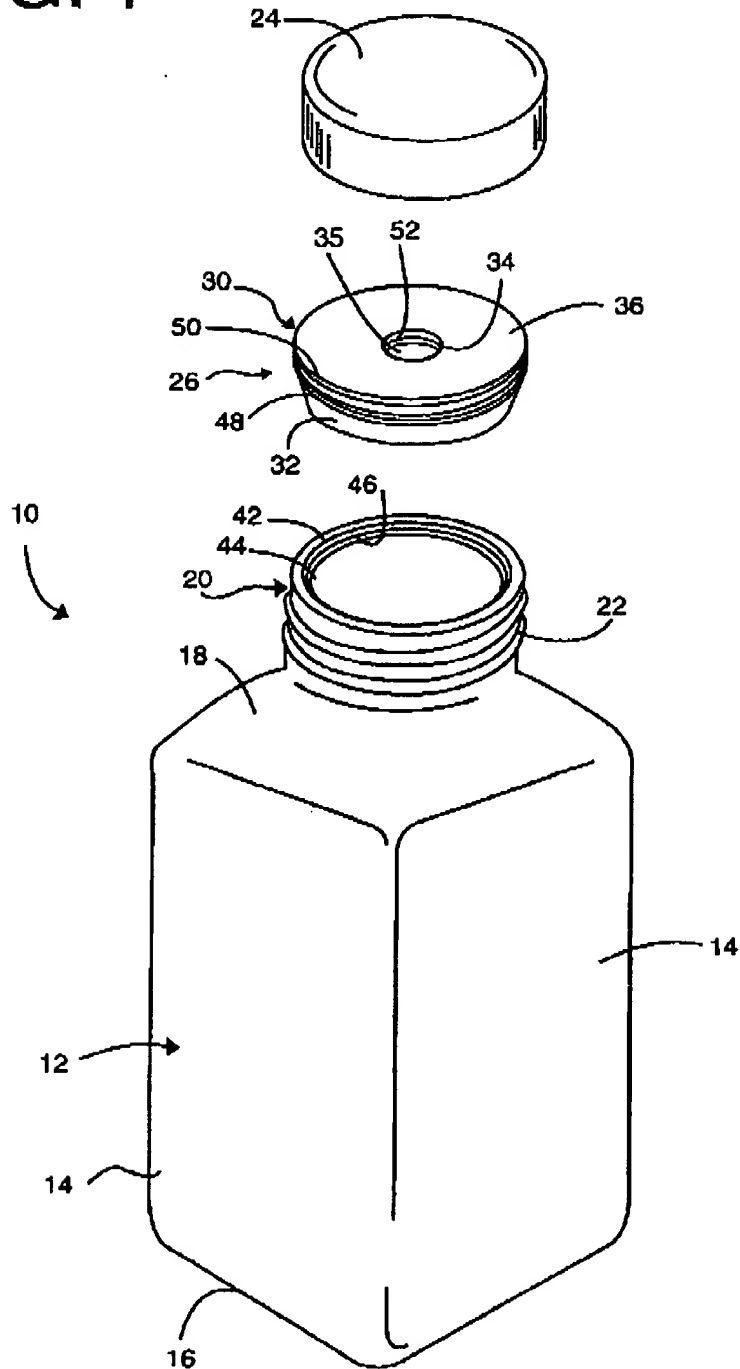
U.S. Patent

May 1, 2001

Sheet 1 of 3

US 6,223,937 B1

FIG. 1



U.S. Patent

May 1, 2001

Sheet 2 of 3

US 6,223,937 B1

FIG. 2

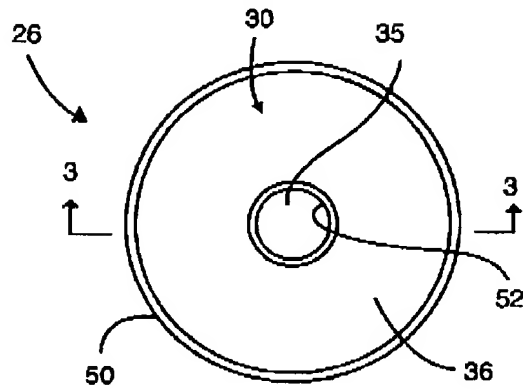


FIG. 3

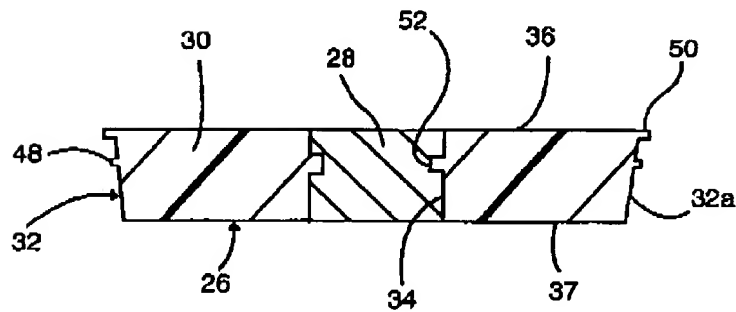
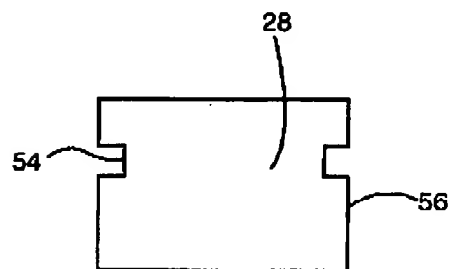


FIG. 4



U.S. Patent

May 1, 2001

Sheet 3 of 3

US 6,223,937 B1

FIG. 5

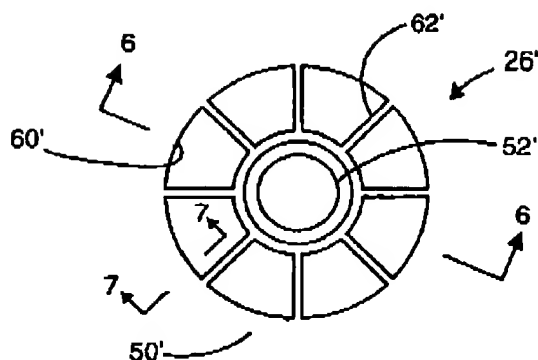


FIG. 6

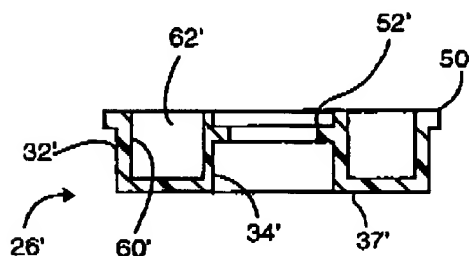
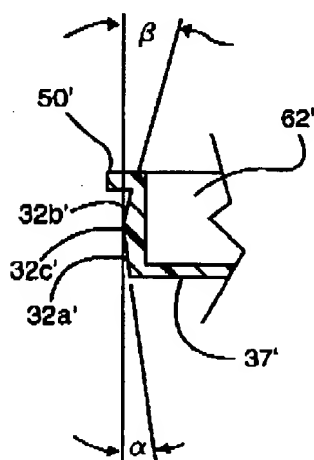


FIG. 7



## US 6,223,937 B1

1

PORTABLE DISPENSING BOTTLE WITH  
DISSOLVABLE WAX PLUG AT INLET

## BACKGROUND OF THE INVENTION

The present invention relates generally to bottles, and more particularly, to a bottle having a wax plug in the neck thereof which dissolves in the presence of heat in order to dispense the contents in the bottle.

Dishwashers have a tendency to accumulate calcium, lime, scale, etc. over time on the walls thereof, particularly in areas having hard water. In many dishwashers, there is a short duration pump cycle, for example, for fifteen seconds, in which all liquid contents in the dishwasher are pumped out, prior to starting the cleaning operation. Therefore, any cleaning liquid placed in the dishwasher at the start of operation is merely pumped out and does not clean the walls of the dishwasher.

Although compartments are provided for a viscous dishwashing liquid or a dishwashing powder, these compartments are not suitable for holding a non-viscous cleaning liquid for cleaning calcium, lime, scale, etc. from the dishwasher walls.

Therefore, there is a need for forming a way to dispense the non-viscous liquid into the dishwasher during the wash cycle, without opening the dishwasher at this time and pouring the cleaning liquid into the dishwasher.

## SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a portable dispensing bottle with a dissolvable wax plug at the inlet that overcomes the aforementioned problems.

It is another object of the present invention to provide a portable dispensing bottle with a dissolvable wax plug in which the wax plug dissolves during the wash cycle in the presence of heated water.

It is still another object of the present invention to provide a portable dispensing bottle with a dissolvable wax plug that is easy and economical to manufacture and use.

In accordance with an aspect of the present invention, a dispensing bottle including a hollow main body; a neck having an opening in open communication with an interior of the main body; a wax plug in the neck, the wax plug made of a wax material that melts at a predetermined temperature; and a removable closure cap in covering relation to the opening. Further, the neck has an inner surface with one of a lip and a groove for capturing the wax plug to prevent the wax plug from falling into the main body.

In accordance with another aspect of the present invention, a dispensing bottle includes a hollow main body having an opening; a wax plug made of a wax material that melts at a predetermined temperature; and a retaining plug positioned in the opening for holding the wax plug in the opening of the bottle.

The hollow main body includes a neck having the opening in open communication with an interior of the main body; and the retaining plug is positioned in the neck for holding the wax plug in the neck of the bottle. A removable closure cap is in covering relation to the opening.

The retaining plug comprises an annular member including an outer facing peripheral surface, and an inner facing peripheral surface defining a center opening in which the wax plug is held.

In one embodiment, an inner facing surface of the opening is provided with one of a lip and a groove, and the outer

2

facing peripheral surface of the retaining plug is formed with the other of the lip and the groove for mating with the one of the lip and the groove in the opening.

In another embodiment, an inner facing surface of the opening is provided with one of a groove and lip, and the outer facing peripheral surface of the retaining plug is formed with upper and lower tapered portions that form a substantially V-shape in cross section, and a meeting portion of the upper and lower tapered portions mates with the one of the groove and lip in the opening, to hold the retaining plug in the opening.

Also, the inner facing peripheral surface includes one of an inwardly extending lip and a groove, and the wax plug includes an outwardly facing peripheral surface with the other of the inwardly extending lip and a groove that fits within the one of the inwardly extending lip and groove.

The retaining plug includes an outwardly extending flange which rests on an upper edge of the bottle in surrounding relation to the opening when the retaining plug is positioned in the opening.

The wax plug is made from a paraffin wax, and preferably, a red paraffin wax having a melting temperature of about 125° F.

In accordance with still another aspect of the present invention, a dispensing bottle includes a hollow main body; a neck having an opening in open communication with an interior of the main body; a wax plug in the neck, the wax plug made of a wax material that melts at a predetermined temperature; and an arrangement for capturing the wax plug in the neck.

The arrangement includes a retaining plug positioned in the opening for holding the wax plug in the neck of the bottle. There is also a removable closure cap in covering relation to the opening in the neck.

The above and other objects, features and advantages of the present invention will become readily apparent from the following detailed description thereof which is to be read in connection with the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective exploded view of a portable dispensing bottle according to the present invention, with the wax plug removed;

FIG. 2 is a top plan view of the retainer ring;

FIG. 3 is a cross-sectional view of the retainer ring, with the wax plug therein, taken along line 3—3 thereof;

FIG. 4 is a side elevational view of the wax plug;

FIG. 5 is a top plan view of a retainer ring according to another embodiment of the present invention;

FIG. 6 is a cross-sectional view of the retainer ring of FIG. 5, taken along line 6—6 of FIG. 5; and

FIG. 7 is an enlarged cross-sectional view of a portion of the retainer ring of FIG. 5, taken along line 7—7 of FIG. 5.

## DETAILED DESCRIPTION

Referring to the drawings in detail, a portable dispensing bottle 10 according to the present invention includes a hollow main body 12 having at least one side wall 14, a closed bottom wall 16 and a top wall 18 that leads into a reduced diameter annular neck 20 that is in open communication with the interior of main body 12. As is conventional, neck 20 has external threads 22 for threadedly receiving a closure cap 24 having mating internal threads (not shown).

## US 6,223,937 B1

3

In accordance with the present invention, a retaining plug 26 is held within neck 20 for holding a dissolvable wax plug 28. Thus, retaining plug 26 will have a height and diameter in dependence upon the size of neck 20. An appropriate height can be, for example, 0.2 to 0.4 inch and an appropriate outside diameter can be, for example, 1.0 to 1.5 inches.

Specifically, retaining plug 26 is formed by an annular member 30 that forms a liquid tight seal with neck 20 and has an outer facing peripheral surface 32, an inner facing peripheral surface 34 defining a center opening 35, a planar upper surface 36 and a planar lower surface 37. An arrangement is provided to releasably capture retaining plug 26 in neck 20. In this regard, as shown in FIG. 1, the inner surface of neck 20 includes a first inwardly directed annular lip 42 at the upper edge thereof, and a second inwardly directed annular lip 44 spaced below lip 42, so as to define an annular groove 46 therebetween. The outer facing peripheral surface 32 of retaining ring 26 is formed with an outwardly extending annular lip 48 spaced slightly below upper surface 36 thereof. Thus, when retaining ring 26 is inserted into annular neck 20, and because of the material of retaining plug 26, some deformation takes place to permit annular lip 48 to fit and be captured within groove 46. In order to aid in this fit, outer facing peripheral surface 32 is preferably tapered inwardly at a lower portion 32a thereof, below annular lip 48.

In addition, to prevent retaining plug 26 from accidentally falling into main body 12, an outwardly extending flange 50 is provided coplanar and contiguous with planar upper surface 36. Thus, when annular lip 48 fits within groove 46, outwardly extending flange 50 seats upon the upper edge of neck 20.

It will be appreciated that retaining plug 26 can be made from various materials, such as plastic, rubber, etc. Further, although the aforementioned capture arrangement for retaining plug 26 is preferred, retaining plug 26 can merely form a friction fit within the inner surface of neck 20. In such case, first inwardly directed annular lip 42, second inwardly directed annular lip 44, annular groove 46, and outwardly extending annular lip 48 would be eliminated.

In order to prevent wax plug 28 from falling into main body 12, it is preferable that another capture arrangement be provided in retaining plug 26. For example, inner facing peripheral surface 34 can include an inwardly extending annular lip 52. In a forming operation, melted wax is poured into center opening 35 of retaining plug 26 and permitted to harden. As a result, as shown in FIG. 4, wax plug 28 is formed as a cylindrical member with an annular groove 54 on the outer facing peripheral surface 56 thereof which is formed by and which receives inwardly extending annular lip 52. As a result, wax plug 28 is captured within retaining plug 26 in a liquid tight sealing manner. Alternatively, inner facing peripheral surface 34 can include an annular groove, in which case, when wax plug 28 is formed, it will include an outwardly extending annular lip that fits within the annular groove.

With the arrangement discussed above, main body 12 is filled with a liquid for cleaning scale, lime, calcium, etc. Then, with wax plug 28 hardened into retaining plug 26, retaining plug 26 is snap fit within neck 20 such that outwardly extending annular lip 48 snap fits within annular groove 46, and outwardly extending flange 50 seats on the upper edge of neck 20. Then, closure cap 24 is threadably engaged on neck 20. Suitable sealing arrangements, such as plastic wrap, break away seals or the like (not shown), which

4

are conventional, can be provided to prevent inadvertent removal of closure cap 24 from neck 20.

In use, closure cap 24 is removed, and bottle 10 is positioned in a dishwasher rack in an inverted orientation, that is, with neck 20 facing down. Because of retaining ring 26 and wax plug 28, a seal is provided in neck 20 to prevent the liquid contents from escaping. A normal dishwasher cycle includes a four minute pre-wash, followed by a four minute rinse with heated water in the temperature range of about 110° F.-120° F. Thereafter, a fifteen minute wash cycle is provided with the water heated further in the temperature range of about 125° F.-145° F. This is followed by a fifteen minute rinse cycle, and then a drying cycle.

In accordance with the present invention, wax plug 28 is made from a wax material that melts or dissolves in the wash cycle. A suitable amount of wax material can be 0.5 gram. Wax plug materials can include bees' wax and synthetic bees' wax, carnauba wax, partial glycerides, polyethylene glycol (PEG), polyglycolized glycerides, fatty acids and/or esters thereof, glyceryl stearate, palmitostearate, paraffin wax, white wax, higher fats, and polymeric materials such as polyurethane, ethylmethacrylate (EMA), hydroxyethylmethacrylate (HEMA), or any other suitable material. Preferably, a red paraffin wax is used, which has a melting point of 125° F. In such case, about two minutes into the wash cycle, wax plug 28 will melt, whereby the cleaning liquid in main body 12 will flow out of neck 20 into the dishwasher in order to remove the calcium, lime, scale, etc. from the walls of the dishwasher. Of course, it will be appreciated that this occurs without any dishes, glassware or flatware in the dishwasher, since the cleaning liquid could cause damage thereto.

Referring now to FIGS. 5-7, a retaining plug 26' according to another embodiment of the invention is shown in which like parts are designated by like numerals, but with a prime (') added thereto, and a detailed description of the common parts will not be discussed in detail for the sake of brevity.

Retaining plug 26' differs from retaining plug 26 by a plurality of, for example, eight, sector shaped recesses 60' in the top thereof, separated by radially oriented dividing walls 62' which extend between outer facing peripheral surface 32' and inner facing peripheral surface 34'. This reduces the amount of material of retaining plug 26', while maintaining the necessary structural rigidity thereof.

In addition, rather than providing a separate outwardly extending annular lip 48, the upper portion 32b' of outer facing peripheral surface 32', which extends upwardly from tapered lower portion 32a', is also tapered inwardly. Thus, outer facing peripheral surface 32' has a V-shaped cross-sectional configuration. As examples, the taper of lower portion 32a' can be equal to an angle  $\alpha$  of approximately 8.1° to a vertical, and the taper of upper portion 32b' can be equal to an angle  $\beta$  of approximately 14.3° to a vertical. Accordingly, the annular portion 32c', where lower and upper portions 32a' and 32b' meet, is snap fit within annular groove 46 in neck 20 to hold retaining plug 26' in annular neck 20. Alternatively, the V-shape of outer facing peripheral surface 32' can be inwardly in the opposite direction, and the inner surface of neck 20 can be provided with a lip that fits therein in place of groove 46.

As a still further alternative embodiment, retaining plug 26 can be eliminated, and instead, the wax plug can be formed directly in neck 20. In such case, annular groove 46 would prevent the wax plug from falling into main body 12. Then, after the wax plug is hardened, closure cap 24 would

## US 6,223,937 B1

5

be threaded onto neck 20. In such case, the bottle would be filled through another portion. For example, the bottom could be open for filling purposes, and then bottom wall 16 would be inserted over the bottom opening and welded with side wall 14.

Having described specific preferred embodiments of the invention with reference to the accompanying drawings, it will be appreciated that the present invention is not limited to those precise embodiments, and that various changes and modifications can be effected therein by one of ordinary skill in the art without departing from the scope or spirit of the invention as defined by the appended claims.

What is claimed is:

1. A dispensing bottle comprising:

a hollow main body having a neck with an opening in open communication with an interior of said main body;

a retaining plug held in said opening in said neck and engaging said neck, said retaining plug having a bore extending therethrough;

a wax plug made of a wax material that melts at a predetermined temperature, said wax plug held in said bore in said retaining plug; and

a closure cap removably engaged on said neck in covering relation to the opening and said bore, said closure cap being separate from said retaining plug.

2. A dispensing bottle according to claim 1, wherein said retaining plug comprises an annular member including:

an outer facing peripheral surface, and

an inner facing peripheral surface defining said bore in which said wax plug is held.

3. A dispensing bottle according to claim 2, wherein said inner facing peripheral surface includes one of an inwardly extending lip and a groove, and the wax plug includes an outwardly facing peripheral surface with the other of the inwardly extending lip and a groove that fits within said one of the inwardly extending lip and groove.

4. A dispensing bottle according to claim 1, wherein said retaining plug includes an outwardly extending flange which rests on an upper edge of said bottle in surrounding relation to said opening when said retaining plug is positioned in said opening.

6

5. A dispensing bottle according to claim 1, wherein said wax plug is made from a paraffin wax.

6. A dispensing bottle according to claim 5, wherein said wax plug is made from a red paraffin wax having a melting temperature of about 125° F.

7. A dispensing bottle comprising:

a hollow main body having an opening, an inner facing surface of said opening being provided with one of a lip and a groove;

a wax plug made of a wax material that melts at a predetermined temperature; and

a retaining plug positioned in said opening for holding said wax plug in said opening of said bottle, said retaining plug comprising an annular member including:

an outer facing peripheral surface formed with the other of the lip and the groove for mating with said one of the lip and the groove in said opening, and

an inner facing peripheral surface defining a center opening in which said wax plug is held.

8. A dispensing bottle comprising:

a hollow main body having an opening, an inner facing surface of said opening being provided with one of a groove and lip;

a wax plug made of a wax material that melts at a predetermined temperature; and

a retaining plug positioned in said opening for holding said wax plug in said opening of said bottle, said retaining plug comprising an annular member including:

an outer facing peripheral surface formed with upper and lower tapered portions that form a substantially V-shape in cross section, and a meeting portion of the upper and lower tapered portions mates with the one of the groove and lip in said opening, to hold said retaining plug in said opening, and

an inner facing peripheral surface defining a center opening in which said wax plug is held.

\* \* \* \* \*

JUN 29 2010

cket No.: IRO0102

FORM PTO-1595 (Modified)  
(Rev. 03-01)  
OMB No. 0851-0027 (exp. 5/31/2002)  
P08/REV03

## RECORDATION FORM COVER SHEET

U.S. DEPARTMENT OF COMMERCE

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## PATENTS ONLY

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To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

## 1. Name of conveying party(ies):

Kevin Schmidt

Additional names(s) of conveying party(ies)

☐ Yes ☒ No

## 3. Nature of conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name☐ OtherExecution Date: October 24, 2002

## 2. Name and address of receiving party(ies):

Name: Iron Out, Inc.

Internal Address: \_\_\_\_\_

Street Address: 1515 Dividend RoadCity: Fort Wayne State: IN ZIP: 46808Additional name(s) & address(es) attached? ☐ Yes ☒ No

## 4. Application number(s) or patent numbers(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s)

B. Patent No.(s)

6,223,937

Additional numbers attached? ☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Thomas A. AdamsInternal Address: BAKER & DANIELSStreet Address: 111 East Wayne Street, Suite 800City: Fort Wayne State: IN ZIP: 46802

## 6. Total number of applications and patents involved:

1

## 7. Total fee (37 CFR 3.41):.....\$ 40.00

☒ Enclosed - Any excess or insufficiency should be credited or debited to deposit account☐ Authorized to be charged to deposit account

## 8. Deposit account number:

02-0385

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## 9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Thomas A. Adams, Regis. No. 48,230

Name of Person Signing

Signature

November 25, 2002

Date

Total number of pages including cover sheet, attachments, and document:

3

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PATENT ASSIGNMENT

WHEREAS, Kevin Schmidt, an individual residing at 511 Wyckoff Ave, Wyckoff NJ ("Assignor"), owns United States Patent No. 6,223,937 B1, entitled Portable Dispensing Bottle With Dissolvable Wax Plug At Inlet; and

WHEREAS, Iron Out, Inc., a corporation organized and existing under the laws of Indiana, with offices at 1515 Dividend Road, Fort Wayne, IN 46808 ("Assignee"), is desirous of acquiring the entire right, title and interest in and to the above-identified patent.

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor, by these presents does sell, assign, transfer and convey unto Assignee, its successors and assigns, the entire right, title and interest in and to the Patent and any and all divisions, continuations or continuations-in-part thereof, and any reissues thereof, and any foreign counterparts thereof (hereinafter collectively referred to as "the Patent"). TO HAVE AND TO HOLD THE SAME to the full end of the term of the Patent and including the right of Assignee to sue and recover damages or other relief for all past infringements of the Patent.

Assignor, for the considerations aforesaid, hereby covenants and agrees to and with Assignee, its successors and assigns, that Assignor has the full power to make this assignment, and that the rights assigned are not encumbered by any assignment, grant, license, mortgage, or right heretofore given, and that Assignor, its executors, successors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other instruments in writing, further applications, papers, prototypes, initial invention disclosure documents, models, draft patent applications, prior art searches, drawings, engineering notebooks, opinions of counsel, affidavits, powers of attorney, assignments, and other documents which, in the opinion of counsel for said Assignee, its successors and assigns, may be required or necessary more effectively to secure to and vest in Assignee, its successors and assigns, the entire right, title and interest in and to the Patent and/or all of the rights, titles, benefits, privileges, and advantages hereby sold, assigned, transferred and conveyed, and that Assignor will sign any applications for reissue which may be desired by the owner of the Patent. Assignor will also provide, at Assignee's sole cost and expense, such lawful testimony or provide such other assistance as may be reasonable requested by Assignee to perfect or record the assignments made herein and to obtain registrations of and to enforce such patent rights world-wide.

IN WITNESS WHEREOF, Assignor, by its duly authorized officer does hereby execute this assignment as of this 29<sup>th</sup> day of October, 2002.

KEVIN SCHMIDT

By: 

Name: \_\_\_\_\_

STATE OF New Jersey )  
 ) ss.:  
COUNTY OF Essex )

BE IT KNOWN, that on this 24 day of October, 2002, before me personally came Kevin Schmidt, the \_\_\_\_\_ of Assignor and acknowledged the foregoing instrument to be his free act and deed for the use and purposes therein mentioned.

Christine Tabak  
Notary Public

CHRISTINE TABAK  
A Notary Public of New Jersey  
My Commission Expires March 29, 2005

**BAKER & DANIELS**

Operating - Fc. Wayne

VENDOR NUMBER: 17135  
VENDOR NAME: Commissioner Of Patents & TrademarksCHECK NUMBER: 106714  
CHECK DATE: 11-07-02REF. # INV. # INV. DATE INV. AMOUNT  
1060311 11070285968.102 11-07-02 40.00INV. DESCRIPTION INV. AMT. PAID  
Mickie B5968.102 40.00

Reviewed by:

VENDOR NUMBER: 17135  
VENDOR NAME: Commissioner Of Patents & TrademarksCHECK NUMBER: 106714  
CHECK DATE: 11-07-02REF. # INV. # INV. DATE INV. AMOUNT  
1060311 11070285968.102 11-07-02 40.00INV. DESCRIPTION INV. AMT. PAID  
Mickie B5968.102 40.00

VENDOR REFERENCE #:

## **Schedule 1.1**

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## BAKER &amp; DANIELS

## Intake Form - Direction to Open or Change Client Matter File (Short Form)

(Please refer to the instructions)

## I. GENERAL:

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☒ ADD'L. MATTER      ☐ CHANGE MATTER INFO.      ☐ RETIRE MATTER      ☐ RETIRE CLIENT

II. CLIENT INFORMATION: Client No. 85968

## CLIENT NAME

Iron Out

## BILLING ADDRESS

CONTACT PERSON'S NAME (60 char. max.) \_\_\_\_\_  
 CONTACT PERSON'S TITLE (50 char. max.) \_\_\_\_\_  
 COMPANY NAME (48 char. max.) \_\_\_\_\_  
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 STATE (2 char. max.) \_\_\_\_\_ ZIP CODE (10 char. max.) \_\_\_\_\_  
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Can the above address be used for Mailings other than Billing? Yes ☐ No ☐

Client Manager (New Clients Only): No. \_\_\_\_\_ Init. \_\_\_\_\_

## III. MATTER INFORMATION:

If Billing Address is Special for this Matter, fill in above and check here ☐MATTER  
NUMBER102MATTER  
NAMEIR00102 -U.S. PT -6,223,937

MATTER MANAGER		ORIGINATION CREDITS			TEAM (DEPT.)	TYPE OF LAW (PRACTICE CODE)	OFFICE CODE	BILL FORMAT	FEE ARRANGEMENT
NO.	INIT.	NO.	INIT.	%					
<u>10503</u>	<u>TAA</u>	<u>10794</u>	<u>TJH</u>		<u>33</u>	<u>640</u>	<u>120</u>		

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Prepared by: Mary Anne Roach Date: 11/4/02

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THIS FORM AND THE RELATED QUESTIONNAIRE MUST BE COMPLETED